UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/625,012	07/22/2003	Stephen Francis Scheid	94321	8428

26327 7590 09/01/2005

THE LAW OFFICE OF KIRK D. WILLIAMS
1234 S. OGDEN ST.
DENVER, CO 80210

EXAMINER	
DOAN, DUC T	

ART UNIT	PAPER NUMBER
2188	

DATE MAILED: 09/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/625,012	SCHEID ET AL.	
	Examiner	Art Unit	
	Duc T. Doan	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-27 are in the application.

Claims 1-27 are rejected.

Claim Rejection 35 USC 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 20-23 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 20 is not limited to tangible embodiments. In view of applicants' disclosure, specification page 7, lines 12-18, the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., storage device, page 7, line 14) and intangible embodiments (e.g., signal mechanism, page 7, line 14; signal received and transmitted, page 7, line 17). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

All dependent claims are rejected as having the same deficiencies as the claims they depend from.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1,3-6,8-13,15,18-20,23-24,27 rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 6788683) and in view of Basu et al (US Pub 2004/0100950).

As for claim 1, Ikeda describes a method for use with a content addressable memory (Fig 1: #5 flow retrieval table CAM) the method comprising: identifying a first value (Fig 1: #26 retrieval key); performing a hashing function on the first value to generate a hashed first value; performing a lookup operation in the content addressable memory based on the hashed first value to generate a first content addressable memory result (Ikeda's Fig 1: #27 flow index; column 3 lines 4-20); and performing an operation based on the first content addressable memory result (Ikeda's Fig 1: #31 flow action; column 8 line 65 to column 9 line 7). Ikeda describes of using the retrieval key value to lookup the flow retrieval table in a CAM flow retrieval table, whereas the retrieval key value is obtained from multiple mask able fields of an original IP packet (Ikeda's column 3, lines 3-20). Ikeda does not describe of hashing the retrieval key value. However, Basu describes multiple fields of an IP packet can be selected and further hashed and used in lookup operation in a bucket (a section) of TCAM (Basu's page 3, paragraph 26). It

would have been obvious to one of ordinary skill in the art at the time of invention to include hash function as suggested by Basu in Ikeda's system to optimize the look up operation of a TCAM thereby reducing the power consumption of the TCAM device (Basu's page 3, paragraph 24).

As for claim 3-5, Ikeda describes wherein said identifying the first value (retrieval key) includes masking an original value with a mask value to generate the first value (claim 3); wherein the first value includes a masked value (claim 4); wherein the first value includes a masked flow identification value (claim 5). Ikeda describes the retrieval key is generated form an original IP packet header information (Fig 1: #3) which corresponds to the claim's flow identification value; the retrieval key also includes retrieval flag which corresponds to the claim's mask value.

Claims 8,12 rejected based on the same rationale as in claim 3.

Claim 9 rejected based on the same rationale as in the rejection of claim 4.

Claims 10,13 rejected based on the same rationale as in the rejection of claim 5.

Claims 6,11,15,20 rejected based on the same rationale as in the rejection of claim 1.

As for claim 18, Ikeda describes wherein said performing a lookup based on the flow identification value to identify a flow identification value mask includes performing the lookup on a set of values correspond to access control list entries. Ikeda describes a lookup of the retrieval flag table (Fig 1: #3), which is based on the information from received IP packet. The lookup information in the retrieval flag table is used to further filter packets in a router (Fig 2: #5,7). Thus the retrieval flag table functions as an access control list.

As for claim 19, the claim rejected based on the same rationale as in the rejection of claim 1. The claim further recites an content addressable memory configured to perform a first lookup operation based on the flow identification value to identifying a matching location; an adjunct memory configured to perform a second lookup operation based on the matching location to identify a flow identification value mask; Examiner notes that the claim describing a standard lookup function of a content addressable memory and retrieving data from its associating ram portion. Ikeda describes the retrieval flag table (Fig 1: #3), which is looked up using the header information from received packet. The retrieval flag table is used to retrieve retrieval flag which corresponding to the claim's identification value mask.

Claims 23,27 rejected based on the same rationale as in claim 18.

Claims 2,7,14,16-17,21-22,25-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Ikeda et al (US 6788683), Basu et al (US Pub 2004/0100950) as applied to claims 1,6,15,20,24 respectively, and further in view of Yasue (US Pub 2004/0028041).

As for claim 2, Ikeda describes wherein the first content addressable memory result includes an address (Ikeda describes the TCAM is used in application such as Ipv4 lookups, flow classification etc. thus TCAM result provides an address for these applications; Ikeda's page 3 paragraph 23, lines 18-21); wherein said performing the operation includes; retrieving a record from memory the record including a key value and a statistics value, comparing the key value to the first value, and updating the statistics value (Ikeda describes the flow index is used to look up the forwarding action table; Ikeda's column 10, lines 25-30; and using as a key to match in node area; Fig 8: #7). Although Ikeda describes the forwarding flow action table contains records such

as flow action information etc.. Ikeda does not specifically describe the claim's detail of a statistic value. However, Yasue describes a memory (Yasue's Fig 9: #71), which uses the flow information (Fig 9: flow no 90f) to keep track and updating a statistic value such as received byte number of packets (Fig 9: #s11). It would have been obvious to one of ordinary skill in the art at the time of invention to include statistic value as suggested by Yasue in Ikeda's system to keep track of bytes being received and thereby determining a violation of band policy (Yasue's page 6, paragraphs 128, 133).

Claims 7,14,16-17,21-22,25-26 rejected based on the same rationale as in claim 2.

Conclusion

When responding to the office action, Applicant is advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Doan whose telephone number is 571-272-4171. The examiner can normally be reached on M-F 8:00 AM 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 571-272-4210. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin L. Ellis
Primary Examiner